

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 267 352 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
18.12.2002 Bulletin 2002/51

(51) Int Cl.7: G11B 27/00

(21) Application number: 02254110.6

(22) Date of filing: 13.06.2002

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: 14.06.2001 KR 2001033526
27.09.2001 KR 2001060137
23.10.2001 KR 2001035393

(71) Applicant: SAMSUNG ELECTRONICS CO., LTD.
Suwon-City, Kyungki-do (KR)

(72) Inventors:
• Chung, Hyun-kwon, c/o 104-906 Dongbo Apt.
Gwangju-gun, Gyeonggi-do (KR)
• Ko, Jung-wan, c/o 103-201 Byucksan Apt.
Suwon-si, Gyeonggi-do (KR)
• Heo, Jung-kwon,
c/o 203-504 Jugong 2-danji Apt.
Seoul (KR)

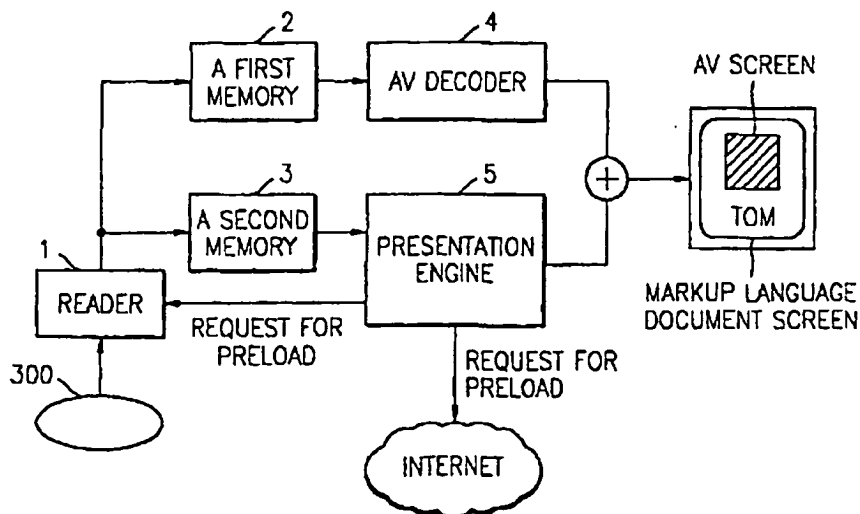
(74) Representative: Robinson, Ian Michael et al
Appleyard Lees,
15 Clare Road
Halifax HX1 2HY (GB)

(54) Information storage medium containing preload information, apparatus and method for reproducing therefor

(57) An information storage medium which contains preload information, a reproducing apparatus and a reproducing method are provided. The information storage medium includes: AV data which includes audio/video data; and a markup language document for displaying the AV data which is decoded and reproduced and for including a preload information that orders a repro-

ducing apparatus to read a file to be preloaded and to store it into a memory. The information storage medium, which contains the markup language document preventing the moving pictures from being interrupted in case the AV data recorded in the DVD is reproduced and displayed through the markup language document, and a reproducing apparatus and a reproducing method are provided.

FIG. 3



(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 267 352 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
13.10.2004 Bulletin 2004/42

(43) Date of publication A2:
18.12.2002 Bulletin 2002/51

(21) Application number: 02254110.6

(22) Date of filing: 13.06.2002

(51) Int Cl.7: **G11B 27/00**, G11B 27/10,
G06F 17/30, H04N 5/00,
G11B 27/32, G11B 20/12,
G11B 19/02, G09B 5/06,
G11B 7/00

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: 14.06.2001 KR 2001033526
27.09.2001 KR 2001060137
23.10.2001 KR 2001065393

(71) Applicant: **SAMSUNG ELECTRONICS CO., LTD.**
Suwon-City, Kyungki-do (KR)

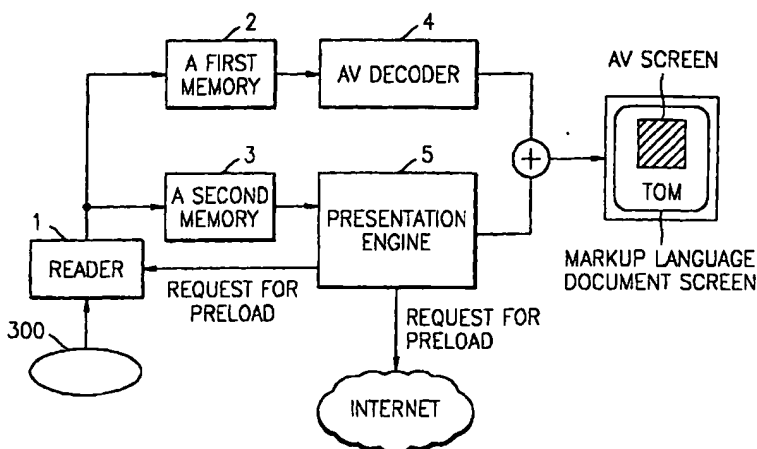
(72) Inventors:
• Chung, Hyun-kwon, c/o 104-906 Dongbo Apt.
Gwangju-gun, Gyeonggi-do (KR)
• Ko, Jung-wan,
315-401 Daewoo Apt. Cheongmyung Maeul
Suwon-si, Gyeonggi-do 442-470 (KR)
• Heo, Jung-kwon,
c/o 203-504 Jugong 2-danji Apt.
Seoul (KR)

(74) Representative: **Robinson, Ian Michael et al**
Appleyard Lees,
15 Clare Road
Halifax HX1 2HY (GB)

(54) **Information storage medium containing preload information, apparatus and method for reproducing therefor**

(57) An information storage medium which contains preload information, a reproducing apparatus and a reproducing method are provided. The information storage medium includes: AV data which includes audio/video data; and a markup language document for displaying the AV data which is decoded and reproduced and for including a preload information that orders a repro-

ducing apparatus to read a file to be preloaded and to store it into a memory. The information storage medium, which contains the markup language document preventing the moving pictures from being interrupted in case the AV data recorded in the DVD is reproduced and displayed through the markup language document, and a reproducing apparatus and a reproducing method are provided.

FIG. 3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 25 4110

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	US 6 047 292 A (KELLY ROBERT L ET AL) 4 April 2000 (2000-04-04) * column 3, line 56 - column 7, line 65 * * column 8, line 65 - column 9, line 12 * * figures 2,3,6-8 *	1-9, 15-25	G11B27/00 G11B27/10 G06F17/30 H04N5/00 G11B27/32 G11B20/12
Y	W3C: "HTML 4.01 Specification" W3C RECOMMENDATION, 'Online! 24 December 1999 (1999-12-24), XP002269497 Retrieved from the Internet: URL:http://www.w3.org/TR/html401/html40.pdf.gz> 'retrieved on 2004-02-06! * pages 54-56 * * pages 154-156 *	1-6,9, 15-18, 20-25	G11B19/02 G09B5/06 G11B7/00
Y	JOHN CHAMBERS: "Preloading Images with JavaScript" HOMEPAGE, 'Online! 3 December 1999 (1999-12-03), XP002269498 Retrieved from the Internet: URL:http://trillian.mit.edu/~jc/sh/ImgPreload.html> 'retrieved on 2004-02-06! * the whole document *	1,7,8, 15,19	
Y	WEBB M: "Re: Pre-loading of html pages" DISCUSSION GROUP, 'Online! 18 April 1998 (1998-04-18), XP002129130 Retrieved from the Internet: URL:http://x37.deja.com> 'retrieved on 2000-01-28! * the whole document *	1,7,8, 15,19	611B G06F H04N G09B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 20 July 2004	Examiner Hermes, L
CATEGORY OF CITED DOCUMENTS		T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document	
X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document			

EPO FORM 1503 03.92 (P4/C01)



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 25 4110

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	LAUDERDALE J ET AL: "A NEW TECHNIQUE FOR TRANSMISSION OF PRE-ENCODED MPEG VBR VIDEO USING CBR SERVICE" 1996 IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS (ICC). CONVERGING TECHNOLOGIES FOR TOMORROW'S APPLICATIONS. DALLAS, JUNE 23 - 27, 1996, IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS (ICC), NEW YORK, IEEE, US, vol. 3, 23 June 1996 (1996-06-23), pages 1416-1420, XP000625043 ISBN: 0-7803-3251-2 * page 2, column 1, line 30 - column 2, line 33 * * page 4, column 1, lines 21-32 *	29	
X	US 6 128 712 A (DAY KEN ET AL) 3 October 2000 (2000-10-03) * column 3, line 26 - column 4, line 22 *	31,32	
A	* column 6, line 36 - column 10, line 32 * * column 14, line 43 - column 16, line 65 * * column 22, line 27 - column 24, line 16 *	1-30, 32-35	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A	EP 0 886 276 A (PIONEER ELECTRONIC CORP) 23 December 1998 (1998-12-23) * figures 1,3,5 * * column 12, line 12 - column 15, line 19 * * column 17, line 12 - column 18, line 10 * * column 26, lines 16-44 *	1-28	
----- -/-			
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 20 July 2004	Examiner Hermes, L
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date O : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.02 (P04C01)



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 25 4110

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	EP 0 762 422 A (HITACHI LTD) 12 March 1997 (1997-03-12) * column 18, line 35 - column 26, line 20 * * figures 23-28 *	1-28	
P,A	WO 02/05104 A (INTERACTUAL TECHNOLOGIES INC) 17 January 2002 (2002-01-17) * the whole document *	1-28	
A	WO 94/03851 A (DIGITAL PICTURES INC) 17 February 1994 (1994-02-17) * figures 1,6,7 * * page 2, line 8 - page 3, line 6 * * page 4, lines 11-31 * * page 11, line 4 - page 12, line 32 *	1-28	
A	WO 00/63915 A (SPRUCE TECHNOLOGIES INC) 26 October 2000 (2000-10-26) * the whole document *	1,2	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
Place of search The Hague		Date of completion of the search 20 July 2004	Examiner Hermes, L
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04C01)



European Patent
Office

Application Number
EP 02 25 4110

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

European Patent
OfficeLACK OF UNITY OF INVENTION
SHEET B

Application Number

EP 02 25 4110

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1, 15, and 22 with dependent claims 2 to 14, 16 to 21, and 23 to 28

Method (claims 15 to 21), apparatus (claims 22 to 28), and storage medium (claims 1 to 14) for reproducing audio/video AV data recorded on an information storage medium, the storage medium also comprising a markup language document that includes preload information and discard information, the method comprising the steps of interpreting the preload information, invoking a file to be preloaded based on the preload information, storing the file to a cache memory, reading the AV data and storing it in a buffer memory, reading the AV data and the file to be preloaded from the buffer memory and the cache memory, respectively, displaying the decoded and reproduced AV data and the file to be preloaded based on the markup language document, interpreting the discard information, and requesting the cache to discard files to be discarded.

2. claim: 29 and 30

Methods for preparing (claim 30) and performing (claim 29) a preloading, the method for performing the preloading comprising the steps of identifying the speed at which a file to be preloaded is read, identifying the condition that enables the buffering to be performed in such a way that relevant AV data can be reproduced seamlessly, and performing the preloading at the time identified to be the optimized condition, and the method for preparing the preloading comprising the steps of determining the above-mentioned optimized condition and recording source codes for performing the preloading at the time which is identified to be the optimized condition.

3. claims: 31-35

Method for managing a memory for preloading, the method comprising recording a memory management table containing the status information of a file to be preloaded, and discarding the file to be preloaded based on its status information.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 25 4110

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

20-07-2004

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 6047292	A	04-04-2000	NONE		
US 6128712	A	03-10-2000	US	6442658 B1	27-08-2002
EP 0886276	A	23-12-1998	JP	11018048 A	22-01-1999
			CA	2241346 A1	20-12-1998
			DE	69823917 D1	24-06-2004
			EP	0886276 A2	23-12-1998
			US	6434326 B1	13-08-2002
EP 0762422	A	12-03-1997	JP	9128408 A	16-05-1997
			CN	1146119 A	26-03-1997
			EP	0762422 A2	12-03-1997
			US	5909551 A	01-06-1999
WO 0205104	A	17-01-2002	US	2002088011 A1	04-07-2002
			AU	7180901 A	21-01-2002
			WO	0205104 A1	17-01-2002
			US	2002078144 A1	20-06-2002
WO 9403851	A	17-02-1994	AU	4638093 A	03-03-1994
			CA	2141607 A1	17-02-1994
			EP	0654157 A1	24-05-1995
			JP	8504283 T	07-05-1996
			WO	9403851 A1	17-02-1994
WO 0063915	A	26-10-2000	AU	4245300 A	02-11-2000
			CA	2369597 A1	26-10-2000
			EP	1171883 A1	16-01-2002
			JP	2003530726 T	14-10-2003
			WO	0063915 A1	26-10-2000

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82